

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-28. (canceled)

29. (previously presented) An aqueous herbicidal composition useful for killing or controlling the growth of unwanted plants comprising:

glyphosate or a salt or ester thereof;
a pyridine analog herbicide or a salt or ester thereof; and,

at least one surfactant;

wherein the glyphosate, on an acid equivalent basis, and the pyridine analog, on an acid equivalent basis, are present in a weight ratio of from 7.6:1 to about 20:1, and further wherein when the glyphosate is predominantly in the form of a salt, said salt is selected from the group consisting of a sodium salt, an ammonium salt, an alkylammonium salt, a C₃-C₁₆ alkanolammonium salt, a di-ammonium salt, an alkylamine salt, a C₃-C₁₆ alkanolamine salt, an alkylsulfonium salt, a sulfoxonium salt, and combinations thereof.

30. (original) The aqueous herbicidal composition of claim 29 wherein the glyphosate concentration ranges from about 4 grams to about 25 grams acid equivalent per liter.

31. (original) The aqueous herbicidal composition of claim 29 wherein the pyridine analog concentration ranges from about 0.4 grams to about 6 grams acid equivalent per liter.

32. (previously presented) The aqueous herbicidal composition of claim 29 wherein the weight ratio, on an acid equivalent basis, of glyphosate to pyridine analog ranges from about 8:1 to about 15:1.

33-35. (canceled)

36. (previously presented) The aqueous herbicidal composition of claim 29 wherein the weight ratio, on an acid equivalent basis, of glyphosate to pyridine analog ranges from about 8:1 to about 20:1.

37. (previously presented) The aqueous herbicidal composition of claim 29 wherein the surfactant concentration is not greater than 3.9 grams per liter.

38. (previously presented) The aqueous herbicidal composition of claim 29 wherein the surfactant concentration is not greater than 6.6 grams per liter.

39. (previously presented) The aqueous herbicidal composition of claim 29 wherein the surfactant concentration is not greater than 9.3 grams per liter.

40-42. (canceled)

43. (previously presented) The aqueous herbicidal composition of claim 29 wherein the glyphosate concentration is not greater than about 15 grams acid equivalent per liter and the weight ratio of glyphosate, on

an acid equivalent basis, to pyridine analog, on an acid equivalent basis, is at least about 10:1.

44. (previously presented) The aqueous herbicidal composition of claim 29 wherein the glyphosate concentration is not greater than about 20 grams acid equivalent per liter and the weight ratio of glyphosate, on an acid equivalent basis, to pyridine analog, on an acid equivalent basis, is at least about 10:1.

45. (canceled)

46. (previously presented) An aqueous herbicidal composition useful for killing or controlling the growth of unwanted plants comprising:

at least one glyphosate salt predominantly in the form of potassium glyphosate, monoethanolamine glyphosate, or a mixture thereof; and

a pyridine analog selected from the group consisting of triclopyr, clopyralid, fluroxypyr, dithiopyr, thiazopyr and picloram, or a salt or ester thereof;

wherein (i) the glyphosate salt is present in a concentration less than 315 grams acid equivalent per liter and the glyphosate salt, on an acid equivalent basis, and the pyridine analog, on an acid equivalent basis, are present in a weight ratio of from 7:1 to about 20:1; (ii) the glyphosate salt is present in a concentration less than 320 grams acid equivalent per liter and the glyphosate salt, on an acid equivalent basis, and the pyridine analog, on an acid equivalent basis, are present in a weight ratio of from 8:1 to about 20:1; (iii) the glyphosate salt is

present in a concentration less than 324 grams acid equivalent per liter and the glyphosate salt, on an acid equivalent basis, and the pyridine analog, on an acid equivalent basis, are present in a weight ratio of from 9:1 to about 20:1; or (iv) the glyphosate salt is present in a concentration less than 326 grams acid equivalent per liter and the glyphosate salt, on an acid equivalent basis, and the pyridine analog, on an acid equivalent basis, are present in a weight ratio of from 10:1 to about 20:1.

47. (original) The aqueous herbicidal composition of claim 46 wherein the glyphosate concentration ranges from about 4 grams to about 25 grams acid equivalent per liter.

48. (original) The aqueous herbicidal composition of claim 46 wherein the pyridine analog concentration ranges from about 0.8 grams to about 2 grams acid equivalent per liter.

49. (previously presented) The aqueous herbicidal composition of claim 46 wherein the weight ratio, on an acid equivalent basis, of glyphosate to pyridine analog is at least 11:1.

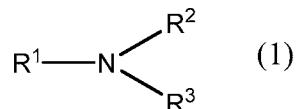
50. (previously presented) The aqueous herbicidal composition of claim 46 wherein the weight ratio, on an acid equivalent basis, of glyphosate to pyridine analog is at least 15:1.

51. (original) The aqueous herbicidal composition of claim 46 further comprising a surfactant.

52. (original) The aqueous herbicidal composition of claim 51 wherein the composition is a liquid concentrate which may be diluted with water to provide an aqueous herbicidal application mixture for application to the foliage of a plant.

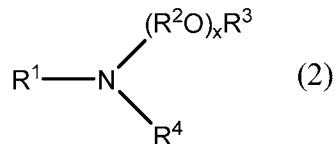
53. (previously presented) The aqueous herbicidal composition of any one of preceding claims 29, 37, 38, 39 or 51 wherein said surfactant is selected from the group consisting of:

(a) a secondary or tertiary amine having the formula:



wherein R^1 and R^2 are hydrocarbyl having from 1 to about 30 carbon atoms, and R^3 is hydrogen or hydrocarbyl having from 1 to about 30 carbon atoms;

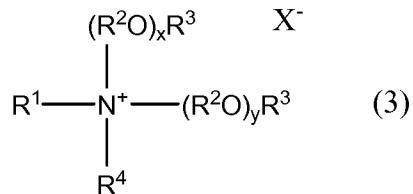
(b) a monoalkoxylated amine having the formula:



wherein R^1 and R^4 are independently hydrocarbyl or substituted hydrocarbyl groups having from 1 to about 30 carbon atoms or $-\text{R}^5\text{SR}^6$, R^2 in each of the x (R^2O) groups is independently $\text{C}_2\text{-C}_4$ alkylene, R^3 is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, R^5 is a linear or branched alkyl group having from about 6 to about 30 carbon atoms, R^6 is a hydrocarbyl or substituted

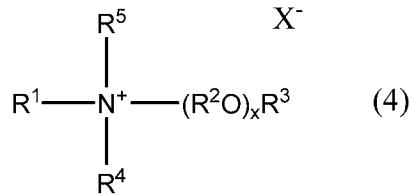
hydrocarbyl group having from 4 to about 15 carbon atoms and x is an average number from 1 to about 60;

(c) a dialkoxylated quaternary ammonium salt having the formula:



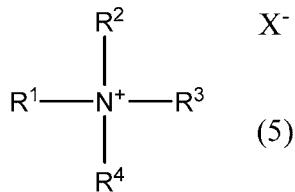
wherein R¹ is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R² in each of the x (R²O) and y (R²O) groups is independently C₂-C₄ alkylene, R³ is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, R⁴ is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, x and y are independently an average number from 1 to about 40, and X⁻ is an agriculturally acceptable anion;

(d) a monoalkoxylated quaternary ammonium salt having the formula:



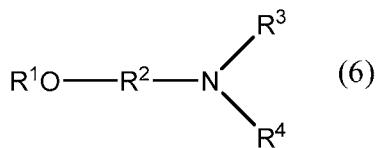
wherein R¹ and R⁵ are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R⁴ is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R² in each of the x (R²O) groups is independently C₂-C₄ alkylene, R³ is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms, x is an average number from 1 to about 60, and X⁻ is an agriculturally acceptable anion;

(e) a quaternary ammonium salt having the formula:



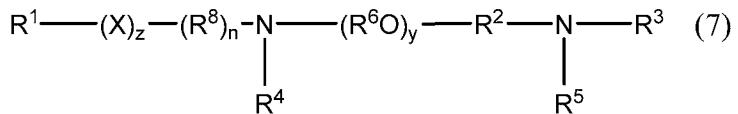
wherein R^1 , R^3 and R^4 are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R^2 is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, and X^- is an agriculturally acceptable anion;

(f) an ether amine having the formula:



wherein R^1 is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms; R^2 is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms; R^3 and R^4 are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or $-(\text{R}^5\text{O})_x\text{R}^6$, R^5 in each of the $x(\text{R}^5\text{O})$ groups is independently $\text{C}_2\text{-C}_4$ alkylene, R^6 is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and x is an average number from 1 to about 50;

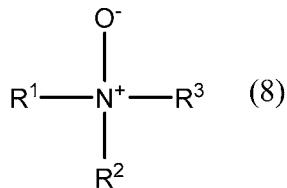
(g) a diamine having the formula:



wherein R^1 , R^3 , R^4 and R^5 are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or $-(\text{R}^6\text{O})_x\text{R}^7$; R^2 and R^8 are independently hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms, R^6 in each of the $x(\text{R}^6\text{O})$ and $y(\text{R}^6\text{O})$ groups is independently $\text{C}_2\text{-C}_4$ alkylene, R^7

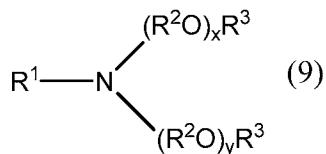
is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms, x is an average number from 1 to about 30, X is $-O-$, $-N(R^6)-$, $-C(O)-$, $-C(O)O-$, $-OC(O)-$, $-N(R^9)C(O)-$, $-C(O)N(R^9)-$, $-S-$, $-SO-$, or $-SO_2-$, y is 0 or an average number from 1 to about 30, n and z are independently 0 or 1, and R^9 is hydrogen or hydrocarbyl or substituted hydrocarbyl;

(h) an amine oxide having the formula:



wherein R^1 , R^2 and R^3 are independently hydrogen, hydrocarbyl or substituted hydrocarbyl, $-(R^4O)_xR^5$, or $-R^6(O R^4)_x O R^5$; R^4 in each of the x (R^4O) groups is independently C_2-C_4 alkylene, R^5 is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms, R^6 is hydrocarbylene or substituted hydrocarbylene having from 2 to about 6 carbon atoms, x is an average number from 1 to about 50, and the total number of carbon atoms in R^1 , R^2 and R^3 is at least 8;

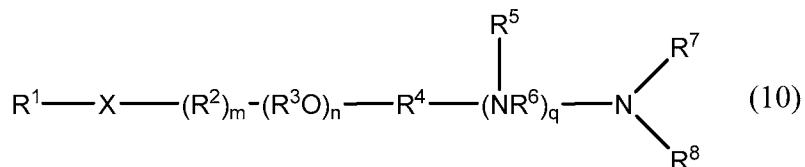
(i) a dialkoxylated amine having the formula:



wherein R^1 is a hydrocarbyl or substituted hydrocarbyl having from about 6 to about 30 carbon atoms, or $-R^4SR^5$, R^4 and R^2 in each of the x (R^2O) and the y (R^2O) groups is independently C_2-C_4 alkylene, R^3 is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, R^5 is a linear or branched alkyl group having from about 4

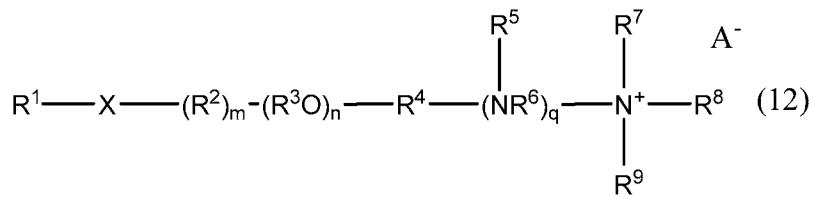
to about 15 carbon atoms, and x and y are independently an average number from 1 to about 40;

(j) an aminated alkoxylated alcohol having the structure:

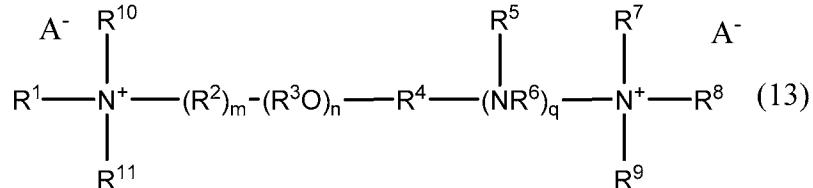


wherein R^1 , R^7 , R^8 , and R^9 are each independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or $-(R^{11})_s(R^3O)_vR^{10}$; X is $-O-$, $-OC(O)-$, $-C(O)O-$, $-N(R^{12})C(O)-$, $-C(O)N(R^{12})-$, $-S-$, $-SO-$, $-SO_2-$ or $-N(R^9)-$; R^3 in each of the n (R^3O) groups and the v (R^3O) groups is independently C_2-C_4 alkylene; R^{10} is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms; n is an average number from 1 to about 60; v is an average number from 1 to about 50; R^2 and R^{11} are each independently hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms; R^4 is hydrocarbylene or substituted hydrocarbylene having from 2 to about 6 carbon atoms; R^{12} is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms; m and s are each independently 0 or 1; R^6 is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms, $-C(=NR^{12})-$, $-C(S)-$, or $-C(O)-$; q is an integer from 0 to 5; and R^5 is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;

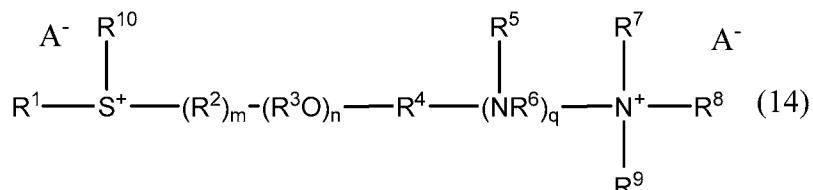
(k) a quaternary ammonium, sulfonium or sulfoxonium salt having the formula:



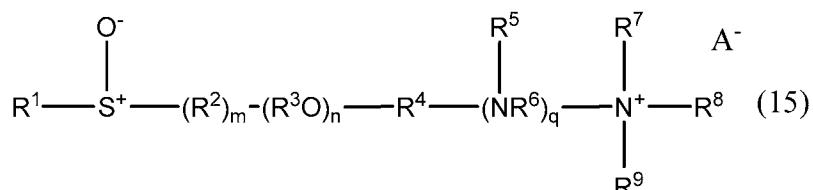
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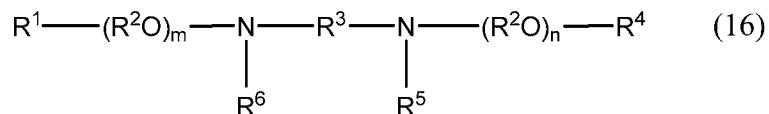
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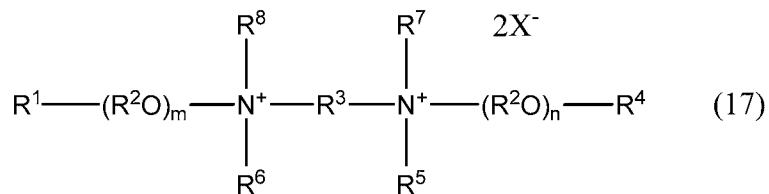
wherein R^1 , R^7 , R^8 , R^9 , R^{10} and R^{11} are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or $-(R^{13})_s(R^3O)_vR^{12}$; X is $-O-$, $-OC(O)-$, $-N(R^{14})C(O)-$, $-C(O)N(R^{14})-$, $-C(O)O-$, or $-S-$; R^3 in each of the n (R^3O) groups and v (R^3O) groups is independently C_2-C_4 alkylene; R^{12} is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms; n is an average number from 1 to about 60; v is an average number from 1 to about 50; R^2 and R^{13} are each independently hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms; m and s are each independently 0 or 1; R^4 is hydrocarbylene or substituted hydrocarbylene having from 2 to about 6 carbon atoms; R^6 is

hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms, $-\text{C}(\text{=NR}^{12})-$, $-\text{C}(\text{S})-$, or $-\text{C}(\text{O})-$; R^{14} is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, q is an integer from 0 to 5; R^5 is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms; and each A^- is an agriculturally acceptable anion;

(l) a diamine or diammonium salt having the formula:

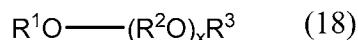


or



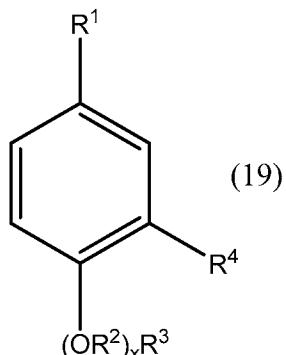
wherein R^1 , R^4 , R^5 , R^6 , R^7 and R^8 are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R^2 in each of the m (R^2O) and n (R^2O) groups and R^9 are independently $\text{C}_2\text{-C}_4$ alkylene, R^3 is hydrocarbylene or substituted hydrocarbylene having from about 2 to about 6 carbon atoms or $-(\text{R}^2\text{O})_p\text{R}_9-$, m and n are individually an average number from 0 to about 50, and p is an average number from 0 to about 60;

(m) an alkoxylated alcohol having the formula:



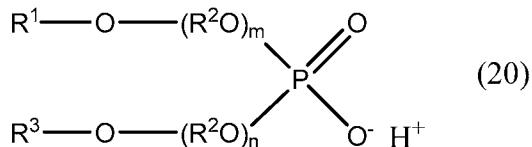
wherein R^1 is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R^2 in each of the x (R^2O) groups is independently $\text{C}_2\text{-C}_4$ alkylene, R^3 is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and x is an average number from 1 to about 60;

(n) alkoxylated dialkylphenols having the formula:



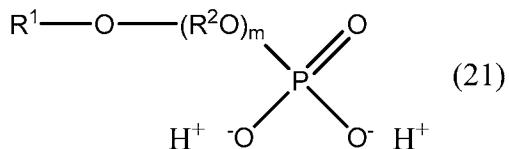
wherein R¹ and R⁴ are independently hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms and at least one of R¹ and R⁴ is an alkyl group, R² in each of the x (R²O) groups is independently C₂-C₄ alkylene, R³ is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and x is an average number from 1 to about 60;

(o) an alkyl alkoxylated phosphate having the formula:



wherein R¹ and R³ are independently a linear or branched alkyl, linear or branched alkenyl, linear or branched alkynyl, aryl, or aralkyl group having from about 4 to about 30 carbon atoms; R² in each of the m (R²O) and the n (R²O) groups is independently C₂-C₄ alkylene; and m and n are independently from 1 to about 30;

(p) an alkyl alkoxylated phosphate having the formula:



wherein R¹ is a linear or branched alkyl, linear or branched alkenyl, linear or branched alkynyl, aryl, or aralkyl group

having from about 8 to about 30 carbon atoms; R² in each of the m (R² O) groups is independently C₂-C₄ alkylene; and m is from 1 to about 30;

and mixtures or combinations thereof.

54-58. (canceled)

59. (currently amended) A method for killing or controlling the growth of unwanted plants comprising contacting the foliage of said plants with a herbicidally effective amount of the herbicidal composition ~~of any one~~ of ~~claims~~ claim 29, 37, 38, 39 or 46.

60-61. (canceled)

62. (previously presented) A method of killing or controlling weeds or unwanted plants comprising:

diluting an aqueous herbicidal concentrate composition in an amount of water to form an application mixture; and applying a herbicidally effective amount of the application mixture to foliage of the weeds or unwanted plants, wherein the weeds or unwanted plants comprise poison ivy, poison oak, kudzu, multiflora rose, golden rod, blue fescue, red maple, and/or red oak, and the aqueous herbicidal concentrate composition comprises glyphosate or a salt or ester thereof; a pyridine analog selected from the group consisting of triclopyr, clopyralid, dithiopyr, thiazopyr and picloram, or a salt or ester thereof; and, at least one surfactant, wherein the glyphosate, on an acid equivalent basis, and the pyridine analog, on an acid

equivalent basis, are present in a weight ratio of from about 8:1 to about 20:1.

63. (previously presented) The composition of claim 29 wherein the pyridine analog is selected from the group consisting of triclopyr, fluroxypyrr, dithiopyr, thiazopyr and picloram, or a salt or ester thereof.

64-65. (canceled)

66. (previously presented) The composition of claim 46 wherein the pyridine analog is selected from the group consisting of triclopyr, fluroxypyrr, dithiopyr, thiazopyr and picloram, or a salt or ester thereof.

67. (canceled)

68-70. (canceled)

71. (new) An aqueous herbicidal composition useful for killing or controlling the growth of unwanted plants comprising:

glyphosate or a salt or ester thereof;

triclopyr or a salt or ester thereof; and,

at least one surfactant;

wherein the glyphosate, on an acid equivalent basis, and triclopyr, on an acid equivalent basis, are present in a weight ratio of from 7.6:1 to about 20:1, and further wherein when the glyphosate is predominantly in the form of a salt, said salt is selected from the group consisting of

a sodium salt, an ammonium salt, an alkylammonium salt, a C₃-C₁₆ alkanolammonium salt, a di-ammonium salt, an alkylamine salt, a C₃-C₁₆ alkanolamine salt, an alkylsulfonium salt, a sulfoxonium salt, and combinations thereof.

72. (new) An aqueous herbicidal composition as set forth in claim 71 wherein the glyphosate salt is present in a concentration less than 320 grams acid equivalent per liter and the glyphosate salt, on an acid equivalent basis.

73. (new) An aqueous herbicidal composition useful for killing or controlling the growth of unwanted plants comprising:

glyphosate or a salt or ester thereof;
clopyralid or a salt or ester thereof; and,
at least one surfactant;
wherein the glyphosate, on an acid equivalent basis, and clopyralid, on an acid equivalent basis, are present in a weight ratio of from 7.6:1 to about 20:1, and further wherein when the glyphosate is predominantly in the form of a salt, said salt is selected from the group consisting of a sodium salt, an ammonium salt, an alkylammonium salt, a C₃-C₁₆ alkanolammonium salt, a di-ammonium salt, an alkylamine salt, a C₃-C₁₆ alkanolamine salt, an alkylsulfonium salt, a sulfoxonium salt, and combinations thereof.

74. (new) An aqueous herbicidal composition as set forth in claim 73 wherein the glyphosate salt is present in

a concentration less than 320 grams acid equivalent per liter and the glyphosate salt, on an acid equivalent basis.

75. (new) An aqueous herbicidal composition as set forth in claims 29, 46, 59 or 62 wherein said pyridine analog is present in its acid or salt form.

76. (new) A method of killing or controlling weeds or unwanted plants comprising:

diluting an aqueous herbicidal concentrate composition in an amount of water to form an application mixture; and

applying a herbicidally effective amount of the application mixture to foliage of the weeds or unwanted plants, wherein the weeds or unwanted plants comprise poison ivy, poison oak, kudzu, multiflora rose, golden rod, blue fescue, red maple, and/or red oak, and the aqueous herbicidal concentrate composition comprises glyphosate or a salt or ester thereof; triclopyr or a salt or ester thereof; and, at least one surfactant, wherein the glyphosate, on an acid equivalent basis, and the triclopyr, on an acid equivalent basis, are present in a weight ratio of from about 8:1 to about 20:1.

77. (new) A method of killing or controlling weeds or unwanted plants comprising:

diluting an aqueous herbicidal concentrate composition in an amount of water to form an application mixture; and applying a herbicidally effective amount of the application mixture to foliage of the weeds or unwanted plants, wherein the weeds or unwanted plants comprise poison ivy, poison oak, kudzu, multiflora rose, golden rod, blue fescue, red maple, and/or red oak, and the aqueous herbicidal

concentrate composition comprises glyphosate or a salt or ester thereof; clopyralid or a salt or ester thereof; and, at least one surfactant, wherein the glyphosate, on an acid equivalent basis, and the clopyralid, on an acid equivalent basis, are present in a weight ratio of from about 8:1 to about 20:1.

78. (new) A method for killing or controlling the growth of unwanted plants comprising contacting the foliage of said plants with a herbicidally effective amount of the herbicidal composition of claim 37.

79. (new) A method for killing or controlling the growth of unwanted plants comprising contacting the foliage of said plants with a herbicidally effective amount of the herbicidal composition of claim 38.

80. (new) A method for killing or controlling the growth of unwanted plants comprising contacting the foliage of said plants with a herbicidally effective amount of the herbicidal composition claim 39.

81. (new) A method for killing or controlling the growth of unwanted plants comprising contacting the foliage of said plants with a herbicidally effective amount of the herbicidal composition claim 46.

82. (new) A method for killing or controlling the growth of unwanted plants comprising contacting the foliage of said plants with a herbicidally effective amount of the herbicidal composition claim 71.

83. (new) A method for killing or controlling the growth of unwanted plants comprising contacting the foliage of said plants with a herbicidally effective amount of the herbicidal composition claim 72.

84. (new) A method for killing or controlling the growth of unwanted plants comprising contacting the foliage of said plants with a herbicidally effective amount of the herbicidal composition claim 73.

85. (new) A method for killing or controlling the growth of unwanted plants comprising contacting the foliage of said plants with a herbicidally effective amount of the herbicidal composition claim 74.